CLAIMS

What is claimed is:

1. A photonic package comprising:

a housing;

a semiconductor light source disposed within the housing, the semiconductor light source having a first light beam output having data encoded thereon;

a beam splitter cube (BSC) disposed inside the housing to create a first split output of said first light beam output, said BSC having a light beam splitting characteristic that negatively impacts said encoding of said data in said first light beam within a predetermined limited threshold; and

a photodetector disposed inside the housing to receive the first split output, with the photodetector being adapted to determine properties of the first split output notwithstanding said first split output being created in said limited impact manner.

2. The photonic package of claim 1 further comprising

a first lens, optically coupled to the semiconductor light source, the first lens equipped to collimate the first light beam output,

a second split output of said first light beam output created by the BSC, and

a second lens, optically coupled to the BSC and an optical fiber, the second lens equipped to focus the second split output to the optical fiber.

3. The photonic package of claim 1, wherein BSC comprises a BSC incorporated with an electro-optic (EO) modulator.

4. The photonic package of claim 3, wherein the BSC further comprises a cleaved yittrium-iron garnet type crystal.

5. The photonic package of claim 1, wherein the semiconductor light source comprises a semiconductor laser.

6. The photonic package of claim 5, wherein the semiconductor laser comprises a gallium arsenide based semiconductor laser.

7. The photonic package of claim 1, wherein the BSC comprises a nonpolarizing dielectric BSC.

8. The photonic package of claim 7, wherein the nonpolarizing dielectric BSC comprises a first right angle prism and a second right angle prism adhesively joined at the hypotenuse.

9. The photonic package of claim 1, wherein the BSC comprises a BSC having a dielectric material to create the first split output.

10. The photonic package of claim 1, wherein the predetermined limited threshold comprises the first split output being of a percentage of the first light beam output.

11. The photonic package of claim 10, wherein the percentage of the first light beam output is 2%.

12. The photonic package of claim 1, wherein the BSC comprises a BSC made of a high quality glass.

13. The photonic package of claim 12, wherein the high quality glass is BK7A glass.

14. The photonic package of claim 1, wherein the photodetector comprises a photodiode.

15. The photonic package of claim 14, wherein the photodiode comprises a p-i-n junction photodiode.

16. The photonic package of claim 1 further comprising a processor to receive electrical signals from the photodetector.

17. The photonic package of claim 16, wherein the processor comprises a processor having at least access to characterization data to facilitate calibration of the received first split output.

18. A method of monitoring a semiconductor light source utilizing a beamsplitter cube (BSC), comprising:

generating a first light beam output by the semiconductor light source that is included in a housing, the first light beam output having data encoded thereon;

providing the first light beam output to the BSC that is included in the housing, the BSC having a light beam splitting characteristic that negatively affects said encoded data in said first light beam within a predetermined limited threshold;

creating a first split output of the first light beam output at said BSC; and

providing the first split output to a photodetector that is disposed within the housing, the photodetector adapted to determine properties of the first split output notwithstanding the first split output being created in the limited impact manner.

19. The method of claim 18 further comprising

collimating the first light beam output;

creating a second split output of the first light beam output at said BSC;

optically coupling the BSC to an optical fiber; and

focusing the second split output to the optical fiber.

20. The method of claim 18 further comprising receiving electrical signals from the photodetector at a processor.

21. The method of claim 20 further comprises calibrating the photodetector by the processor for receiving the first split output.

22. A photonic package comprising:

a housing;

a semiconductor light source disposed within the housing, the semiconductor light source having a first light beam output having data encoded thereon;

an optical isolator structure optically coupled to the semiconductor light source and disposed inside the housing, the optical isolator structure having a beam splitter cube (BSC), the BSC having a light beam splitting characteristic that negatively impacts said encoding of said data in said first light beam within a predetermined threshold; and

a photodetector disposed inside the housing to receive the first split output, with the photodetector being adapted to determine properties of the first split output notwithstanding said first split output being created in said limited impact manner.

23. The photonic package of claim 22 further comprising

a lens, optically coupled to the semiconductor light source, the lens equipped to collimate the first light beam output,

a second split output of said first light beam output created by the BSC and being provided to an optical fiber.

24. The photonic package of claim 22, wherein the semiconductor light source comprises a semiconductor laser.

25. The photonic package of claim 24, wherein the semiconductor laser comprises a gallium arsenide based semiconductor laser.

26. The photonic package of claim 22, wherein the BSC comprises a nonpolarizing dielectric BSC.

27. The photonic package of claim 26, wherein the BSC comprises a BSC having a dielectric material to create the first split output.

28. The photonic package of claim 22, wherein the BSC comprises a polarizing dielectric BSC.

29. The photonic package of claim 28, wherein the BSC comprises a BSC having a dielectric material to create the first split output.

30. The photonic package of claim 22, wherein the BSC comprises a cleaved light isolator element.

31. The photonic package of claim 30, wherein the light isolator element comprises a bismuth garnet.

32. The photonic package of claim 22, wherein the predetermined limited threshold comprises the first split output being of a percentage of the first light beam output.

33. The photonic package of claim 32, wherein the percentage of the first light beam output is a maximum of 2%.